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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/813,009

Filing Date: March 31, 2004

Appellant(s): FALCONER ET AL.

Allan Brett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 3/28/2008 appealing from the Office action mailed 11/1/2007.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,895,218	Yarkosky	5-2005
6,985,716	Talaie et al.	1-2006

6,400,925 Tirabassi et al. 1-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1-3, 7, 10-11, 19, and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Yarkosky (US Pat# 6,895,218).

Regarding claim 1, Yarkosky's in-building distribution using wireless access technology teaches a partner relay system (Fig. 1) comprising a first relay 2 (Fig. 1) adapted to receive a first signal in the downlink direction 6 (Fig. 1) on a first wireless transmission resource 102 (Fig. 3), perform a first signal translation on the first signal to a second transmission resource 104 (Fig. 3), and re-transmit the first signal in the downlink direction 10 (Fig. 1) on the second wireless transmission resource 106 (Fig. 3); a second relay 12 (Fig. 1) in a spaced arrangement from the first relay adapted to receive the first signal in the downlink direction 10 (Fig. 1) on the second wireless transmission resource from the first relay 108 (Fig. 3), perform a second signal translation 110 (Fig. 3) to re-translate the first signal to the first wireless transmission

resource, and re-transmit the first signal 112 (Fig. 3) in the downlink direction 14 (Fig. 1); wherein the first wireless transmission resource 102 (Fig. 3) or 2 (Fig. 1) is a transmission resource allocated for forward link transmissions 10 (Fig. 1) or 106 (Fig. 3) from the first transceiver, and the second wireless transmission resource 12 (Fig. 1) or 156 (Fig. 4) is a transmission resource allocated for reverse link transmissions 156 (Fig. 4 or 20 (Fig. 1) to the first transceiver 2 (Fig. 1).

Regarding claim 2, Yarkosky teaches wherein each signal translation is an analog translation (Fig. 3).

Regarding claim 3, Yarkosky teaches wherein each signal translation is a frequency translation (Fig. 3).

Regarding claim 7, Yarkosky teaches wherein the first signal is transmitted by the base station 100 (Fig. 3), and the second relay re-transmits the first signal for reception by the wireless station 110-114 (Fig. 3).

Regarding claim 10, Yarkosky teaches wherein the first relay 2 (Fig. 1) comprises a first antenna 50 (Fig. 2) for communicating with the cellular communications system, and a second directional antenna 66 (Fig. 2) for communicating with the second relay 12 (Fig. 1), and wherein the second relay comprises a third directional antenna for communicating with the first relay 108 (Fig. 3), and a fourth antenna for communicating with the wireless station 112 (Fig. 3).

Regarding claim 11, Yarkosky teaches the second relay is further adapted to receive a second signal on a third wireless transmission resource 152 (Fig. 4), perform a third signal translation to translate the second signal to a fourth wireless transmission

resource 154 (Fig. 4) and re-transmit the second signal 156 (Fig. 4); the first relay is further adapted to receive the second signal on the fourth wireless transmission resource from the second relay 158 (Fig. 4), perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource 160 (Fig. 4), and re-transmit the second signal 162 (Fig. 4).

Regarding claim 19, Yarkosky teaches a third relay 362 (Fig. 8) adapted to receive a second signal on a third wireless transmission resource, perform a third signal translation to translate the second signal to a fourth wireless transmission resource and re-transmit the second signal; a fourth relay 366 (Fig. 8) further adapted to receive the second signal on the fourth wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the third wireless transmission resource, and re-transmit the second signal.

Regarding claim 21, a third relay 362 (Fig. 8) adapted to receive a second signal on the second wireless transmission resource, perform a third signal translation to translate the second signal to the first wireless transmission resource and re-transmit the second signal (Col. 8 lines 13-18); a fourth relay 366 (Fig. 8) adapted to receive the second signal on the first wireless transmission resource from the third relay, perform a fourth signal translation to re-translate the second signal to the second wireless transmission resource, and re-transmit the second signal.

Regarding claim 22, method claim 22 is rejected for the same reasons as system claim 1 since the recited elements would perform the claimed steps.

Regarding claim 23, method claim 23 is rejected for the same reasons as system claim 19 since the recited elements would perform the claimed steps. Further Yarkosky teaches wherein the third wireless transmission resource is a transmission resource allocated for reverse link transmissions to the first transceiver (Col. 8 lines 19-31) and the fourth wireless transmission resource is a transmission resource allocated for forward link transmissions from the first transceiver (Col. 7 line 66-Col. 8 line 12).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Talaie et al. (US Pat# 6,985,716).

Regarding claim 4, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky fails to teach a CDMA signal.

Talaie's radio signal broadcast system teaches a first signal is a CDMA signal (Col. 2 lines 34-43 and Col. 6 lines 55-61).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a CDMA signal as taught by Talaie into Yarkosky's in-building distribution using wireless access technology in order to increase capacity (Col. 3 lines 59-67).

4. Claims 9, 18, and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Yarkosky (US Pat# 6,895,218) in view of Tirabassi et al. (US Pat# 6,400,925).

Regarding claim 9, Yarkosky's in-building distribution using wireless access technology teaches the limitations in claim 1. Yarkosky teaches FDMA and TDMA (Col. 3 lines 29-42) which is similar to TDM or FDM. However, Yarkosky fails to teach TDM/FDM resource.

Tirabassi's packet switch control with layered software teaches wherein the first wireless transmission resource comprises a combined TDM/FDM resource (Col. 5 lines 1-21).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate TDM/FDM resource as taught by Tirabassi into Yarkosky's in-building distribution using wireless access technology in order to meet performance requirements (Col. 2 lines 30-39).

Regarding claim 18, Yarkosky teaches the limitations in claims 1 and 11. Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

Regarding claim 20, Yarkosky teaches the limitations in claims 1 and 19. Yarkosky fails to teach a TDM/FDM resource.

Tirabassi teaches a TDM/FDM resource (Col. 5 lines 1-21).

(10) Response to Argument

(A) The appellant argued that Yarkosky "does [not] suggest or disclose that the transmission resource allocated for reverse link transmissions is used to 're-transmit the first signal in the downlink direction on the second wireless transmission resource'".

In response to the argument (A), the examiner respectfully disagrees with appellant's argument. The examiner believes the appellant is reading more into the claim than present. In claim 1 on lines 10-13, the claim states it re-transmits the first signal in the downlink direction and **not** in reverse link (as appellant contends). Then in lines 15-17 of claim 1, it later says that "the second wireless transmission resource is a transmission resource allocated for reverse link transmissions to the first transceiver." This does not refer to the first signal being reverse linked (as appellant contends). However, for the sake of argument, Yarkosky teaches in figure 1 both downlink and reverse link between the relays 2 and 12 (Fig. 1). Also, figure 3 teaches the downlink scheme and figure 4 teaches the uplink or reverse link scheme.

(B) The appellant argued based on the combination of Yarkosky and Talaie that "the Examiner has not provided a suitable reason why a person of ordinary skill in the art would have combined the cited references."

In response to the argument (B), the examiner respectfully disagrees with appellant's argument. Using KSR the combination made is of a simple substitution of one known element for another to obtain predictable results. Talaie is used to teach a CDMA signal (Col. 6 lines 55-61). Also, in Talaie it shows that a CDMA signal is pretty well known to be used in a relay system (Col. 2 lines 34-43 teaches the relay

environment and Col. 6 lines 55-61 teaches CDMA signals). For this reason it is a simple substitution of one known element of a CDMA signal in a relay system of Talaie into another relay system of Yarkosky to obtain predictable results.

(C) The appellant argued based on the combination of Yarkosky and Tirabassi that “the Examiner has not provided a suitable reason why a person of ordinary skill in the art would have combined the cited references.”

In response to the argument (C), the examiner respectfully disagrees with appellant’s argument. Again, similar to response (B), using KSR the combination made is of a simple substitution of one known element for another to obtain predictable results. Tirabassi is used to teach a TDM/FDM signal (Col. 5 lines 1-21). Also, in Tirabassi it shows that a TDM/FDM signal is pretty well known to be used in a relay system (Fig. 2, the signals can be relayed between the two satellites and ground stations or from a user terminal to a satellite back down to a network operation center). For this reason it is a simple substitution of one known element of a TDM/FDM signal in a relay system of Tirabassi into another relay system of system of Yarkosky to obtain predictable results.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Andrew Wendell/

Examiner, Art Unit 2618

May 27, 2008

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